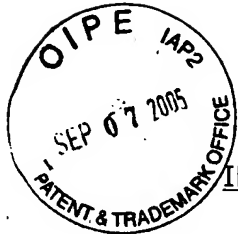


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**In re Application Serial No. 10/724,481**

**Applicants: Martin et al.**

**Group Art Unit: 3753**

**Filing Date: November 28, 2003**

**Title: LOW PROFILE HEAT EXCHANGER WITH NOTCHED  
TURBULIZER**

**Attorney Docket No.: 60680-0771**

Dear Sir:

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97**

In connection with the U.S. patent application identified above, Applicant wishes to draw to the Examiner's attention the following art. This Statement is being filed under Section 1.97(b).

Enclosed herewith is a List of References Cited by Applicant (PTO-1449) including a brief English explanation of the references not in the English language. Copies of the non-U.S. patent references are being submitted herewith. With respect to some of the references which are not in the English language, English translations exist and are attached to the reference itself. It is requested that all of the references listed therein be considered, made of record in the prosecution history of the application, and appear among the references cited on any patent to issue from the application.

Applicant believes that this Information Disclosure Statement is being submitted prior to the mailing date of the first Official Action in the above-identified matter, in accordance with 37 C.F.R. §1.97(b)(3). However, in the event that the first Office Action has already been mailed and Applicant has not yet received the Office Action, Applicant petitions for consideration of this Information Disclosure Statement and authorizes the Assistant Commissioner to deduct the fee of \$180.00 required under 37 C.F.R. §1.97(c)(2) and 37 C.F.R. §1.17(p) from Deposit Account No. 13-2400. The Assistant Commissioner is further authorized to deduct any additional fees required in

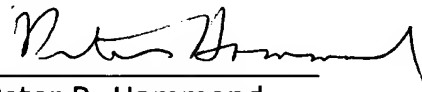
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connection with this Information Disclosure Statement from Deposit Account No. 13-2400 and to credit any overpayment to Deposit Account No. 13-2400.

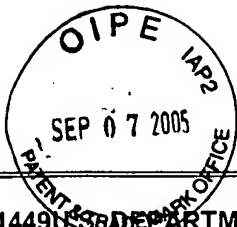
EXECUTED at Mississauga, Ontario, Canada, this **31<sup>st</sup>** day of **August**, 2005.

Respectfully submitted,

By:   
Peter R. Hammond  
Registration No. 27,524

Encl.

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| <b>Form PTO-1449 (Rev. 2-32) U.S. DEPARTMENT OF COMMERCE<br/>PATENT AND TRADEMARK OFFICE</b>                |                            |                            |                       | <b>Attorney Docket<br/>No. 60680-0771</b> |                 | <b>Serial No.<br/>10/724,481</b>                     |
|---|----------------------------|----------------------------|-----------------------|---|-----------------|--|
| <b>SUPPLEMENTAL INFORMATION DISCLOSURE<br/>STATEMENT BY APPLICANT<br/>(Use Several Sheets if Necessary)</b> |                            |                            |                       | <b>Applicants: Martin <i>et al</i></b>    |                 |  |
|   |                            |                            |                       | <b>Filing Date<br/>Nov 28, 2003</b>       |                 | <b>Group Art Unit:<br/>3753</b>                      |
| <b>U.S. PATENT DOCUMENTS</b>  |                            |                            |                       |   |                 |  |
| <b>Examiner<br/>Initial</b>   | <b>Document<br/>Number</b> | <b>Date<br/>(MM/DD/YY)</b> | <b>Name</b>           | <b>Class</b>                              | <b>Subclass</b> | <b>Filing Date if<br/>Appropriate<br/>(MM/DD/YY)</b> |
|   | 1,049,695                  | 1/7/1913                   | Garrison              |   |                 |  |
|   | 1,318,875                  | 10/14/1919                 | Hutchinson            |   |                 |  |
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|   | 3,650,310                  | 3/21/1972                  | Childress             |   |                 |  |
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|   | 4,085,728                  | 4/25/1978                  | Tomchak               |   |                 |  |
|   | 4,134,195                  | 1/16/1979                  | Jacobsen <i>et al</i> |   |                 |  |

| Examine<br>r Initial | Document<br>Number | Date<br>(MM/DD/YY) | Name                    | Class | Subclass | Filing Date if<br>Appropriate<br>(MM/DD/YY) |
|----------------------|--------------------|--------------------|-------------------------|-------|----------|---|
|                      | 4,478,277          | 10/23/1984         | Friedman <i>et al</i>   |       |          |   |
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|                  |  |            |         |       |           | Translation |    |
|------------------|--|------------|---------|-------|-----------|-------------|----|
| Examiner Initial | Document Number  | Date       | Country | Class | Sub-Class | Yes         | No |
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|                  | OS 2 201 559   | 7/19/1973  | DE      |       |           |             |    |
|                  | 33 28 229  | 10/10/1985 | DE      |       |           |             |    |
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|                  | 0,805,328  | 11/5/1997  | EP      |       |           |             |    |
|                  | 0,807,756  | 11/19/1997 | EP      |       |           |             |    |
|                  | 0,826,874  | 3/4/1998   | EP      |       |           |             |    |
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|                  | 2,774,462  | 8/6/1999   | FR      |       |           | X           |    |
|                  | 2,774,463  | 8/6/1999   | FR      |       |           | X           |    |
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|                  |                 |            |         |       |           | Translation |    |
|------------------|-----------------|------------|---------|-------|-----------|-------------|----|
| Examiner Initial | Document Number | Date       | Country | Class | Sub-Class | Yes         | No |
|                  | WO 94/23449     | 10/13/1994 | WO      |       |           |             |    |
|                  | WO 01/25711     | 4/12/2001  | WO      |       |           |             |    |
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## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

|  |  |   |
|--|--|---|
|  |  | U.S. publication No 2004/0238162 (Seiler <i>et al</i> ) published December 2, 2004 and entitled HEAT EXCHANGER WITH FLOW CIRCUITING END CAPS                        |
|  |  | U.S. publication No. 2005/0115700(Martin <i>et al</i> ) published June 2, 2005 and entitled BRAZED SHEETS WITH ALIGNED OPENINGS AND HEAT EXCHANGER FORMED THEREFROM |
|  |  | U.S. publication No. 2004/0069474 (Wu <i>et al</i> ) published April 15, 2004 and entitled BAFFLED SURFACE COOLED HEAT EXCHANGER                                    |
|  |  | U.S. publication No. 2003/0164233 (Wu <i>et al</i> ) published September 4, 2003 and entitled LOW PROFILE FINNED HEAT EXCHANGER                                     |
|  |  | U.S. publication No. 2003/0173068 (Davies <i>et al</i> ) published September 18, 2003 and entitled FINNED PLATE HEAT EXCHANGER                                      |
|  |  | Fuel Cooling Needs for Advanced Diesel Engines by Michael Davies, John Burgers and Nick Kalman in SAE Technical Paper Series, May 19-22, 1997                       |
| EXAMINER   |  |   |
| DATE CONSIDERED  |  |   |
| * Examiner: Initial citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |  |   |

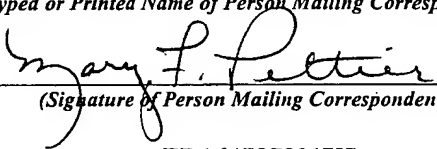
## EXPLANATION OF NON-ENGLISH REFERENCE

- CH 220,299      This patent shows a rectangular, generally flat heat exchanger which has a serpentine member that extends between outer sidewalls. Vents appear to be located at opposite ends of the heat exchanger.
- DE OS 2,201,559      This reference teaches a flat type heat exchanger with rectangular sides and a folded internal wall that forms multiple passageways. These passageways are closed at their opposite ends by end plates. There are inlet and outlet openings on one side of the heat exchanger.
- DE 33 28 229      This patent appears to teach a heat exchanger for heat exchange between two fluids passing through parallel, alternating flat tubular structures. The passageways extend through an elongate boxlike structure that forms the external walls.
- FR 1,189,606      This patent shows a heat exchanger with a base plate and a shaped cover plate and a turbulizer arranged between these two plates. Inlet and outlet connections are attached to the cover plate.
- FR 1,534,246      This patent teaches a finned member that has a tubular core from which the fins extend radially. End sections of each main fin are bent at different angles. This finned member is mounted on a hollow shaft as shown in Figure 4.
- JP 61-66061      This patent teaches a heat exchanger with upper and lower plate sections through which fluid passageways extend. These plates are interconnected along one side edge. The bottom plate is formed with a series of parallel fins that extend downwardly.
- JP 7-280484      This patent illustrates a stacked plate heat exchanger that can be fitted with turbulizer members shown in Figure 15. On one side of a pair of plates forming a tubular member, there can be arranged a corrugated fin structure as shown in Figure 18.

- EP 0 805 328      This patent describes a heat exchanger that can be made from a series of side-by-side plates and frame members (see Figure 1).
- EP 0 807 756      This patent shows various plate and finned members for use with fuel lines for heat exchange.
- FR 2,748,800      A heat exchanger is shown having adjacent plates with angled slots therein that criss-cross to define flow channels therebetween.
- EP 0, 826,874      This patent shows a heat exchanger with fins on one side and a labyrinth of grooves on the opposite side. A flat plate is located adjacent the grooves to define flow passages between the two plates.
- DE 298 03 166      This patent appears to illustrate a finned heat exchanger with two or more circular passageways arranged side-by-side and spaced apart by interconnecting webs. There are a series of fins integrally formed on one side of the heat exchanger.
- EP 0 890 810      This patent shows a fuel cooler that has an extruded or continuously cast main body containing a plurality of longitudinal internal flow channels. This main body has open ends. Another member with cooling ribs or fins is attached to the main body. Finally, end pieces or closing elements are used to close off the open ends of the main body and make the fuel flow in series through the fluid channels in the main body. (An English translation of the reference is attached to the reference).
- FR 2 769 082      This patent describes a heat exchanger comprising a series of stacked plates which are mounted in a housing. A turbulizer structure is apparently arranged between the stacked plates.
- FR 2,772,838      The fuel system consists of a fuel tank, supplying fuel to the injectors, with a fuel reflow circuit to return the fuel to the tank. The excess fuel emerging from the injector, is passed through a heat exchanger, which uses the flow of incoming air to cool the fuel, which is then returned to the fuel tank, and the air is supplied to the engine inlet.



- EP 0 907 061      This patent describes a heat exchanger which has a low profile and which is made from two plates that are spaced apart a short distance and that are arranged between two tubular tanks for fluid flow. Short parallel fins extend upwardly and downwardly from these plates (see Figure 7). (An English translation of the reference is attached to the reference).
- FR 2,774,462      This patent shows a heat exchanger having a corrugated plate attached to a flat plate to define flow channels therebetween. (An English translation of the reference is attached to the reference).
- FR 2,774,463      This patent also shows a fuel cooler having a serpentine tube attached to a plate. The plate has cut-outs, tabs and ramps formed in it for directing air flow. (An English translation of the reference is attached to the reference).
- FR 2,774,635      This patent shows a fuel cooler consisting of a serpentine tube attached to a louvered plate. (An English translation of the reference is attached to the reference).
- FR 2,778,973      This patent illustrates a low profile but curved heat exchanger wherein upper and lower plates are separated by a series of fluid flow passageways. The upper and lower plate sections have a series of short ribs formed externally thereon (see Figure 3). An end plate closes the end of the fluid passageways.
- FR 2,785,377      This patent shows a fuel cooler consisting of a serpentine tubular member mounted in a housing having a base and a cover. (An English translation of the reference is attached to the reference).

|   |                           |                        |                          |                        |
|---|---------------------------|------------------------|--------------------------|------------------------|
| <b>CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)</b><br>Applicant(s): MARTIN ET AL.  |                           |                        | Docket No.<br>60,680-771 |                        |
| Application No.<br>10/724,481   | Filing Date<br>11/28/2003 | Examiner<br>UNASSIGNED | Customer No.<br>26127    | Group Art Unit<br>3753 |
| Invention: LOW PROFILE HEAT EXCHANGER WITH NOTCHED TURBULIZER   |                           |                        |                          |                        |
| <p>I hereby certify that the following correspondence:</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"><b>SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT, FORM PTO-1449, EXPLANATION OF NON-ENGLISH REFERENCES and copies of 29 FOREIGN PATENT DOCUMENTS and 1 TECHNICAL PAPER</b></div> <p style="text-align: center;"><i>(Identify type of correspondence)</i></p> <p>is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on</p> <p style="text-align: center;"><u>09/07/2005</u><br/>(Date)</p> <div style="text-align: center; margin-top: 20px;"><u>MARY F. PELTIER</u><br/>(Typed or Printed Name of Person Mailing Correspondence)<br/><br/>(Signature of Person Mailing Correspondence)<br/><u>ED164797801US</u><br/>( "Express Mail" Mailing Label Number)</div> <p style="text-align: center; margin-top: 50px;">Note: Each paper must have its own certificate of mailing.</p> |                           |                        |                          |                        |